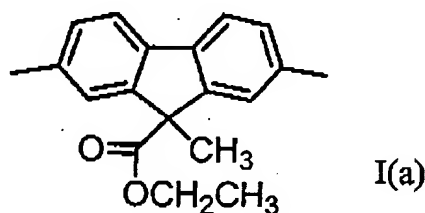
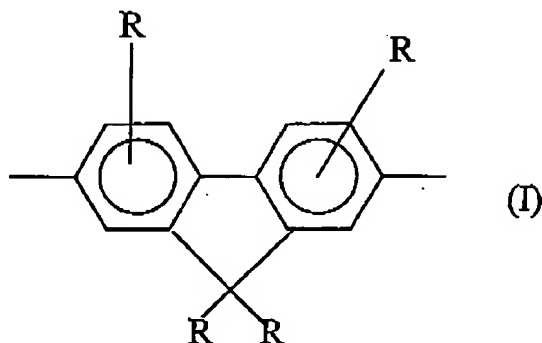


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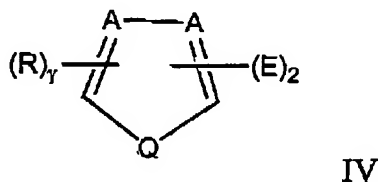
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Listing of Claims

1. (Currently Amended) A copolymer comprising at least one first monomeric unit and at least one second monomeric unit, wherein the at least one first monomeric unit has a formula selected from the group consisting of Formulae I and I(a)



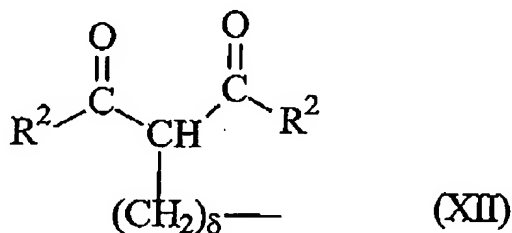
and the at least one second monomeric unit is selected from 5-membered-ring heteroaromatic groups having Formula IV



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in each of Formulae I and IV:

R is a substituent on a carbon atom which can be the same or different at each occurrence and is selected from hydrogen, alkyl, aryl, heteroalkyl, heteroaryl, F, -CN, -OR¹, -CO₂R¹, -C_ψH_θF_λ, -OC_ψH_θF_λ, -SR¹, -N(R¹)₂, -P(R¹)₂, -SOR¹, -SO₂R¹, -NO₂, and beta-dicarbonyls having Formula XII



or adjacent R groups together can form a 5- or 6-membered cycloalkyl, aryl, or heteroaryl ring,

such that:

R¹ is a substituent on a heteroatom which can be the same or different at each occurrence and is selected from alkyl, aryl, heteroalkyl and heteroaryl; and ψ is an integer between 1 and 20, and θ and λ are integers satisfying Equation A1 below:

$$\theta + \lambda = 2\psi + 1; \quad (\text{Equation A1});$$

in Formula IV:

E can be the same or different at each occurrence and is a single bond or a linking group selected from arylene and heteroarylene;

in Formula IV:

A is independently at each occurrence C or N and γ is 0 or an integer selected from 1 or 2, such that when both A are N, then γ is 0; or when one of A is N and one of A is C, then γ is 1; or when both A are C, then γ is 2;

Q is O, S, SO₂, or NR¹ where:

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R^1 is a substituent on a heteroatom which can be the same or different at each occurrence and is selected from alkyl, aryl, heteroalkyl and heteroaryl;

in Formula XII:

R^2 is selected from hydrogen, alkyl, aryl, heteroalkyl and heteroaryl;

δ is 0 or an integer from 1 to 12, and when R in formula IV is hydrogen, alkyl, F, -CN, -OR¹, or CO₂R¹ the copolymer further comprises end-capping groups that are aromatic.

2. (Original) The copolymer of Claim 1, wherein R groups in one or more of the at least one first monomeric unit are independently selected from alkyl groups having 1 to 30 carbon atoms; heteroalkyl groups having 1-30 carbon atoms and one or more heteroatoms of S, N, or O; aryl groups having from 6 to 20 carbon atoms, and heteroaryl groups having from 2 to 20 carbon atoms and one or more heteroatoms of S, N, or O.

3. (Original) The copolymer of Claim 1 that excludes any vinylene monomeric units.

4. (Previously presented) The copolymer of Claim 1 wherein each R group in each of Formula I, Formula I(a), and Formula IV is selected from:

hydrogen;

alkyl;

aryl;

heteroalkyl;

heteroaryl;

F;

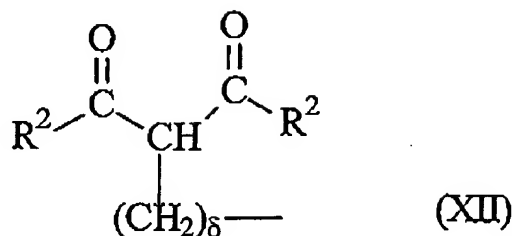
-CN;

-P(R¹)₂ and -SOR¹, where R¹ is a substituent on a heteroatom which can be the same or different at each occurrence and is selected from alkyl, aryl, heteroalkyl and heteroaryl;

-NO₂;

a beta-dicarbonyl having Formula XII

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$-\text{C}_{\psi}\text{H}_0\text{F}_{\lambda};$

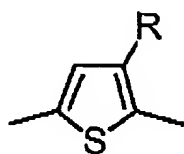
$-\text{OC}_{\psi}\text{H}_0\text{F}_{\lambda};$

$-\text{OR}^1$, $-\text{CO}_2\text{R}^1$, $-\text{SR}^1$, $-\text{N}(\text{R}^1)_2$, and $-\text{SO}_2\text{R}^1$ where R^1 is a straight chain or branched alkyl of more than 20 carbons or a straight chain or branched heteroalkyl.

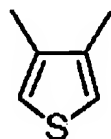
5. (Original) The copolymer of Claim 1 wherein the at least one of the R groups in one or more of the at least one first monomeric unit is independently selected from linear and branched n-butyl groups; linear and branched iso-butyl groups; linear and branched pentyl groups; hexyl groups, and octyl groups with and without olefinic unsaturation; phenyl groups, thiophene groups, carbazole groups, alkoxy groups, phenoxy groups and cyano groups.

6. (Original) The copolymer of Claim 1 wherein at least one of the R groups in one or more of the at least one first monomeric unit are independently selected from H, $\text{C}_6\text{-C}_{12}$ alkoxy, phenoxy, $\text{C}_6\text{-C}_{12}$ alkyl, phenyl and cyano.

7. (Currently Amended) The copolymer of Claim 1 wherein one or more of the at least one second monomeric unit is selected from Formulae I, I(a), and IV(a) through IV(h):

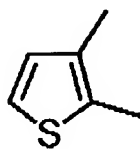


IV(a)

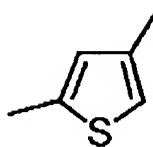


IV(b)

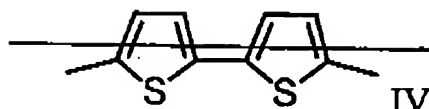
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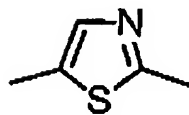
IV(c)



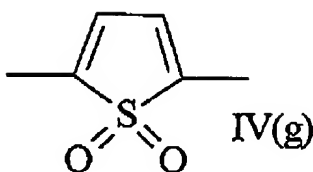
IV(d)



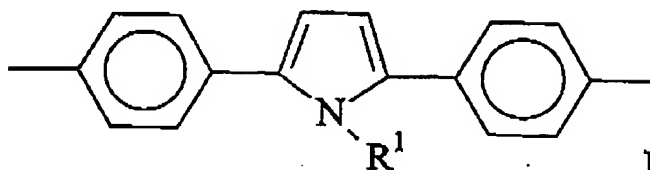
IV(e)



IV(f)



IV(g)



IV(h)

where:

in Formula IV(a):

R is as described above for each of Formulae I, I(a) and IV;

in Formula IV(h):

R¹ is a substituent on a heteroatom which can be the same or different at each occurrence and is selected from alkyl, aryl, heteroalkyl and heteroaryl.

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8. (Cancelled).

9. (Previously Presented) The copolymer of Claim 1, wherein one or more of the at least one second monomeric unit has Formula IV wherein R is selected from:

partially or fully fluorinated alkyl groups having from 1 to 12 carbon atoms;

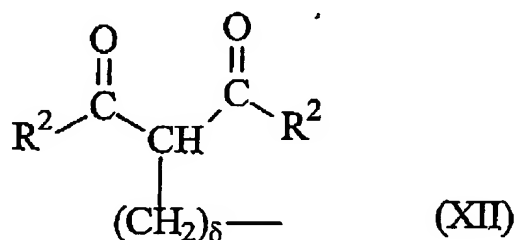
alkoxy groups having from 1 to 12 carbon atoms;

esters having from 3 to 15 carbon atoms;

$-SR^1$, $-N(R^1)_2$, $-P(R^1)_2$, $-SOR^1$, $-SO_2R^1$, where R^1 is an alkyl group having from 1 to 12 carbon atoms;

$-NO_2$; and

beta-dicarbonyls having Formula XII where:



in Formula XII:

R^2 is an alkyl group having from 1 to 12 carbon atoms and δ is 0, 1, or 2.

10. (Cancelled).

11. (Original) The copolymer of Claim 1, wherein one or more of the at least one second monomeric unit has Formula IV wherein:

R groups are selected from H, C_6 - C_{12} alkyl groups, C_6 - C_{20} aryl groups, and C_2 - C_{20} heteroaryl groups; and

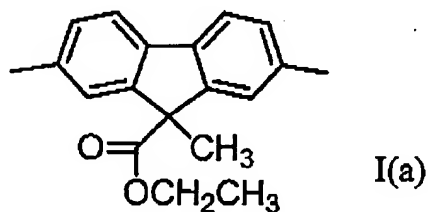
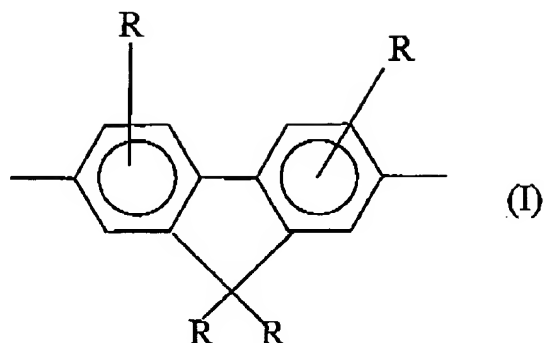
E linking groups include pyrrolediyl ($-C_4H_3N-$) and thiophenediyl ($-C_4H_3S-$).

12-13. (Cancelled).

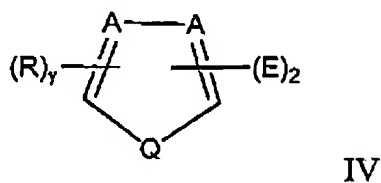
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14. (Original) An electronic device comprising at least one electroactive layer comprising the copolymer of Claim 1.
15. (Original) The device of Claim 14, wherein the device comprises a hole injection/transport layer comprising the copolymer of Claim 1.
16. (Original) The device of Claim 14, wherein the device comprises an electron injection/transport layer comprising the copolymer of Claim 1.
17. (Original) The device of Claim 14, wherein the electroactive layer comprises a light-emitting material comprising the copolymer of Claim 1.
18. (Cancelled).
19. (Original) The device of Claim 14, wherein the device is selected from a light-emitting device, a photodetector, and a photovoltaic device.
20. (Original) The device of Claim 14, wherein the device is an electroluminescent display.
21. (Currently Amended) A light-emitting device comprising at least one light-emitting layer comprising the following copolymer;
at least one first monomeric unit and at least one second monomeric unit, wherein the at least one first monomeric unit has a formula selected from the group consisting of Formulae I and I(a)

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and the at least one second monomeric unit is selected from 5-membered-ring heteroaromatic groups having Formula IV

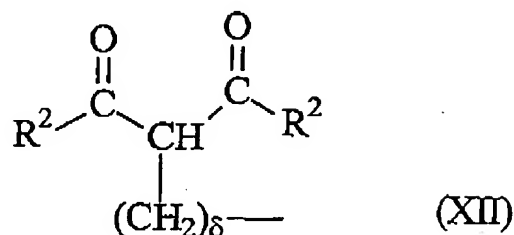


in each of Formulae I and IV:

R is a substituent on a carbon atom which can be the same or different at each occurrence and is selected from hydrogen, alkyl, aryl, heteroalkyl, heteroaryl, F, -CN, -OR¹, -

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CO_2R^1 , $-\text{C}_\psi\text{H}_\theta\text{F}_\lambda$, $-\text{OC}_\psi\text{H}_\theta\text{F}_\lambda$, $-\text{SR}^1$, $-\text{N}(\text{R}^1)_2$, $-\text{P}(\text{R}^1)_2$, $-\text{SOR}^1$, $-\text{SO}_2\text{R}^1$, $-\text{NO}_2$, and beta-dicarbonyls having Formula XII



or adjacent R groups together can form a 5- or 6-membered cycloalkyl, aryl, or heteroaryl ring,

such that:

R^1 is a substituent on a heteroatom which can be the same or different at each occurrence and is selected from alkyl, aryl, heteroalkyl and heteroaryl; and ψ is an integer between 1 and 20, and θ and λ are integers satisfying Equation A1 below:

$$\theta + \lambda = 2\psi + 1; \quad (\text{Equation A1});$$

in Formula IV:

E can be the same or different at each occurrence and is a single bond or a linking group selected from arylene and heteroarylene;

in Formula IV:

A is independently at each occurrence C or N and γ is 0 or an integer selected from 1 or 2, such that when both A are N, then γ is 0; or when one of A is N and one of A is C, then γ is 1; or when both A are C, then γ is 2;

Q is O, S, SO_2 , or NR^1 where:

R^1 is a substituent on a heteroatom which can be the same or different at each occurrence and is selected from alkyl, aryl, heteroalkyl and heteroaryl;

in Formula XII:

R^2 is selected from hydrogen, alkyl, aryl, heteroalkyl and heteroaryl;

δ is 0 or an integer from 1 to 12.